Glasswing (*Acraea andromacha*) on *Passiflora aurentia*

Butterfly & Other Invertebrates Club Inc. Newsletter

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CLUB PLANNING AND ORGANIZING GROUP - 2005

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PLANNING AND ORGANIZATION MEETINGS

A quarterly meeting is scheduled in order to plan club activities and the newsletter. See BOIC Programme.

CONTACT ADDRESS AND MEMBERSHIP DETAILS

PO Box 2113, Runcorn, Queensland 4113
Membership fees are $15.00 for individuals and $20.00 for families, schools and organisations

AIMS OF ORGANIZATION

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, native bees, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

NEWSLETTER DEADLINES

If you want to submit an item for publication the following deadlines apply:
March issue – February 21st June issue – May 21st
September issue – August 21st December issue – November 21st

COVER DRAWING

Glasswing (*Acraea andromacha*) by Lois Hughes

PRESIDENT'S POSTING

Welcome to a landmark 40th issue! We hope to be able to issue the whole collection of our newsletters with an index on a CD. This will give you access to all the items in the issues so far, along with some great colour photos.

Our Club formed in late 1994, so this past year marks my 11th year as the organisation's founding President. I would like to congratulate all those who have contributed to make the Club so successful over this time. However recent events have caused me to take a long hard look at my continued involvement in this role and, although I still have a number of ways in which I would like to see the Club develop, I believe it is time to move on and make room for others.

Please come to the AGM and consider how you can contribute to building a stronger Club promoting and having fun learning about the small creatures of this world.

Helen Schwencke

IN THIS ISSUE

Glasswing (*Acraea andromacha*) – 12th January '06

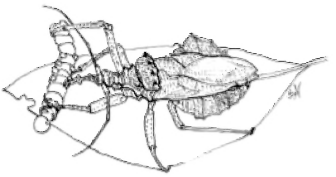
Having observed the activity of the Glasswing butterflies from a distance over the last several months, I was rewarded by a closer inspection this morning. After the welcome rains we've had and the hot and humid weather, the *Passiflora caerulea* has produced abundant new growth and it was around this that two females were most interested.

Acraea andromacha – Photo by Peter Hendry

They circled and landed numerous times, scratching their chosen leaf with a foreleg, before flying off for a general look before finally settling on the leaf they had scratched. With their "chastity belt' clearly visible, they had obviously mated so were carrying a load of fertilized eggs and seriously searching for a place to unload. The sphragis or "chastity belt" is a device to prevent copulation with other males once mating has occurred.

Before doing so they dragged their abdomen back and forth over the underneath leaf surface and only then proceeded to lay, in perfectly spaced lines, their pale, creamy coloured eggs. Too hard to count, I would estimate at least fifty eggs were laid by each female, the whole procedure lasting about 30 min.

Amongst the foliage I also spied a praying mantis (*Orthodera ministralis*) two assassin bugs and numerous medium sized black ants with creamy gold abdomens (*Polyrachis* sp.) patrolling the vines, the former, known predators of caterpillars, the latter's intentions unknown at this stage. Is it any wonder the Glasswing's eggs are so numerous?



Assasin Bug

Orthodera ministralis

Nine days later the eggs darkened and hatched the following morning, resulting in at least 150 black headed, pale bodied caterpillars at three locations. Two days of heavy rain followed after which only a few caterpillars could be found. Previous observations showed the caterpillars feeding together at the one location until the whole leaf was consumed, leaving only

the veins, before moving to the next leaf to repeat the process, but on this occasion I found they had dispersed to various locations.

I did find a few caterpillars had already moulted, now displaying the dull orange body colour covered in shiny black branched spines which they retain to maturity. Whether these caterpillars were those that I had observed hatching or from previously hatched eggs I do not know.

Glasswing larva – Photo by Peter Hendry

Seventeen days from my initial observations (Feb. 3rd) I located a dozen or so caterpillars about 10 mm long and one 35 mm. long all feeding together on the newer growth leaves, low to the ground, the smaller ones from a different batch of eggs than those previously mentioned. Perhaps the large one is from the first batch as these caterpillars have the unusual habit of suddenly dropping to the ground if they are disturbed but without producing a silken thread on which to ascend to their original location, so this could explain its location near the ground. The ants were still industriously patrolling the leaves and touching the caterpillars but at that size showed no signs of attacking them.

Since my initial observations the vine has been visited daily by at least two females, surely not the original pair? The pupa is white with delicate black lacy markings and has the amusing habit of moving and remaining at strange angles in response to touch.

The butterfly, of medium size, has a wingspan of between 53 and 56 mm. Its upper wings are almost transparent, not unlike greaseproof paper with delicate black veining and markings, the lower wings similarly patterned, are pale cream. It has a gently floating flight, peaceful to watch, and it can from a distance, because of its wing shape, be confused with the Dainty Swallowtail (*Papilio anactus*) or because of its colouring (or lack of it) the much larger female Clearwing Swallowtail or Big Greasy (*Cressida cressida*).

Other host plants include the native *Passiflora aurantia* and *P. herbertiana* and the weed *P. suberosa* or Corky Passion Vine. *P. caerulea* is the rootstock on which commercial passionfruit vines are grafted and is vigorous and suckering with beautiful white and purple or blue flowers and is called the Blue Passion-flower Vine in gardening books.

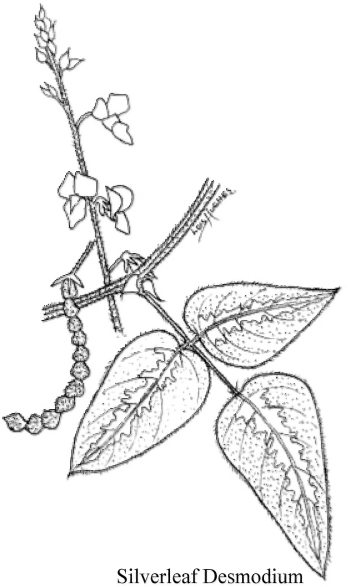
6th February. Found the large caterpillar hanging yesterday morning on an exposed stalk a short distance above its feeding spot. Its orange body colour was now white,

the head, legs and spines still black. Being in a vulnerable spot, I broke the stalk off and hung it inside at the same angle, placing it on the table where I intended to work so I could see the fascinating process of skin shedding. Preoccupied in another room I returned to find the process complete. Hanging there in all its delicate beauty I once more give thanks to my Creator for sharing these precious moments of life with me and for the abundance of creatures I share my home with and the responsibility I have to protect the environment and all the fascinating creatures who call it home.

Glasswing pupa – Photo by Peter Hendry

Lurking amongst the leafy passionfruit growth is a "killer vine" that I have tried, so far unsuccessfully, so far to eradicate. Silverleaf Desmodium (*Desmodium uncinatum*) is a legume, cultivated in pastures for cattle feed and its nitrogen fixing properties in the soil.

Velcro is a very useful invention, but not to insects. The leaves, stems and seeds of this vine are covered in densely packed sticky hairs which firmly and fatally trap both caterpillars and butterflies and any other unsuspecting insects out for a stroll. Sometimes the caterpillars can be freed using a small paintbrush but it depends on how long they've been trapped. I found 5 dead butterflies, trapped by their wings before I realized how deadly this vine is. It has a deep taproot so it is difficult to pull out and it also re-shoots. Its pretty, lilac green pea flowers produce hundreds of seeds which firmly adhere to animals' fur and people's clothes, so it can be spread far and wide. Its summer growth is rampant and it can cause welts and itches on bare skin as well as more severe allergic reactions in susceptible individuals and needs to be eradicated.



Silverleaf Desmodium (*Desmodium uncinatum*)

Lois Hughes

PLANT PROFILE

Passiflora aurantia

Passiflora, meaning: passio, Passion and floris, flower. Referring to the symbolic representation of the flower parts to Christ's passion.
aurantia, meaning: orange, referring to the flower colour.

P.aurantia is a member of the Passifloraceae family of flowering plants. One well-known member of this family is edible passion fruit, *Passiflora edulus*. *P.aurantia* occurs from north-eastern Queensland to North East New South Wales, it is also found in New Guinea and some Pacific Islands. It is a climber with shallowly to deeply 3-lobed leaves, rarely entire. The flower is often salmon pink to bright red, but may be white or pink. The fruit is globular 3-5cm X 2-4.5cm, green becoming purplish with age.

P.aurantia is quick growing but often short-lived. It can be grown from seed or cuttings, is suited to tropical or sub tropical regions, does best in a semi-shaded well-drained site and responds to slow release fertilisers and mulching. Extra water during extended dry spells is recommended.

Passiflora aurantia – Photo by Peter Hendry

References : Encyclopaedia of Australian Plants W. Rodger Elliot and David L. Jones
Australian Plant Genera James A. Bains
ASGAP web site

Peter Hendry

EXCURSION REPORT

On the 10th December 2005 Bob and Barbara Luttrell hosted a 'Gathering' of Native Bee enthusiasts at their Highvale property, which was enjoyed by all who attended. Despite some difficult circumstances, including the high temperature on the day (and the fact that Barbara had her leg in a special cast to support her broken foot) they were perfect hosts.

Not only did everyone have the opportunity to inspect the exotic and native sections of Barbara and Bob's garden, they were also treated to a display of Bob's fine photographs; not to mention his delicious desserts. Lee Byrnes, although unable to

attend himself, sent along two examples of his stingless beehive designs in his distinctive blue colouration. Col Webb from Ipswich exhibited some excellent material including two living display hives; one of *Trigona carbonaria* and another of *Austroplebeia australis* bees. I brought along examples of my plastic tubing hives. A number of native plants were donated for sharing amongst the attendees and regrettably the names of all the donors were not recorded. However, Peter Hendry's Old Man's Saltbushes were an unusual and popular contribution to the plant pool. Unfortunately several people had to leave early and they missed the splitting of Bob's Tallowwood log and the transfer of the *Trigona carbonaria* colony within to an artificial hive. The nest was remarkably peaceful, allowing everyone to get a good look inside and to inspect the brood cells, which included at least one queen bee cell. The hive was robbed of some of its tangy honey so attendees could taste genuine 'sugarbag', while at the same time opportunistic Resin Bees, with their distinctive orange coloured abdomens, pinched a little bit of the colony's resin and cerumen. A couple of even more unwelcome visitors in the form of Syrphid flies also appeared on the scene to try to take advantage of the hive's disturbance.

Only metres away from this transfer was Bob's 'Highvale Heap' where another stingless bee botherer, the *Bembix musca* wasp, could be observed drilling numerous nesting tunnels into the sandy pile of top dressing soil.

Everyone seemed to enjoy meeting others with similar interests, sharing ideas and benefiting from the sharing of that information. Once again the Luttrell's are to be thanked for having made this possible.

P S. Despite the disruption to the bees on the day current reports indicate that the colony is going quite well in its new artificial home.

John Klumpp

AUSTRALIAN NATIVE BEES #5

Buying a Hive

It occurred to me that if I have created any interest in Australia's social bees with this series of articles then some readers might want to get into stingless beekeeping themselves. So rather than continue on with my particular interest (hive designs) as indicated in the last issue I thought I should skip ahead to a more pertinent subject for those thinking about acquiring a hive of their own.

For many people the most convenient (and economical) way of obtaining their own stingless bee colony is to buy an established hive. Sometimes nests in logs are offered for sale but in this article I will concentrate on artificial hives. Besides, purchasing hives in logs could encourage unscrupulous sellers to harvest too many colonies from

our natural bushland. Insisting on an artificial hive with a replacement warranty not only discourages this practice, but also offers you, the buyer, greater protection.

However, such conditions come at a cost and a premium product usually demands a higher price. As with so many things you only get what you pay for, but a little bit of knowledge gained beforehand may help you become a more discerning buyer and hopefully avoid disappointment down the track.

Firstly, the material that the hive is made out of is important, even more important than that used for honeybee hives and I'll tell you why. Honeybees construct (or re-use) vertical combs suspended within the hive on removable wooden frames for storing honey, pollen and their brood. If the outer box rots away over time it's an inconvenience for the beekeeper, but he or she can simply transfer the frames containing the combs into a new standard size box (or 'Super' as the ones above the brood are known) and hey presto the hive has a new home. To stingless bees the box itself is the foundation of their construction. Overlapping pollen and honey pots are attached directly to the walls and ceiling. A box that rots away quickly in the weather is going to be a major problem for the new owner. Also honeybees have a prodigious capacity for warming and cooling their hive so the insulating properties of the box material are not as important as they are for our stingless bees, which cannot maintain a constant temperature as effectively as their introduced rivals.

So what should the stingless beekeeper use? Well it would make things less expensive all round if we could build hives out of cheap old chipboard (known as 'Weet-Bix' in the trade because of what happens to it when it gets damp) but that is not a real option for obvious reasons. I know there are some water resistant composite boards on the market, but I would be wary of them, not only because the chemicals used in their manufacture might adversely affect the bees, but the absorption of those chemicals into the honey might also adversely affect any of us humans who decide to drizzle it on their ice-cream. This leaves us with exterior ply (or better yet Marine bondwood) or solid timber to construct our hives.

Now I'm no expert on timber, but my father was a Chippy so I picked up a little bit of knowledge over the years. It stands to reason that the thicker the timber the better its insulating properties and for a given thickness the pines are better insulators than the heavier hardwoods. For this reason most hives are constructed from pine despite the better durability of hardwood. The quick growing plantation pines such as Radiata should be avoided because they are not durable out of doors. Chemically treated pine boards, while durable, are of course not suitable due to their toxicity. Overseas timbers, especially those that have come into Australia in the form of packing crates should also be treated with caution, not only in terms of their durability, but also because they may have been fumigated or subjected to other treatments.

Good hives are constructed from durable quality timbers such as Hoop Pine or Cypress. They will be painted on the outside of course, but it doesn't hurt to ask the seller what timber has been used in construction. Obviously timber isn't the only building material that can be used. I've seen hives built from terracotta, concrete and a concrete and clay mix. They may be durable but my back isn't up to moving the larger ones around and they tend to stay damp and cold in winter. I've gone off in a different direction altogether and make mine from insulated plastic tubing. The commercial grade tubing I use reputedly has a service life of 75 years so it's real 'see me out' stuff. The drawback is the cost of this tubing in the large diameter sizes required. When I first started building these hives I spent much of my time scrounging around large building sites, plying plumbers and drainers with expensive bottles of alcohol in exchange for their off-cuts.

Regardless of the material used to build the hive be sure to check out the quality of construction. A well-made hive should have neat close fitting components to help keep out pests and invaders. All joints should be well secured together and the hive properly painted to maximise its life in all weathers. Provision should be made on the hive for it to be securely mounted up off the ground on a post, tree or wall where it can be better protected against ant attack. Ideally your artificial hive should also have a transparent observation panel under the roof to allow you to watch at least some of the internal workings of the colony without creating much disturbance.

Now that we've dealt with the packaging what about the important bit – the bees themselves. Most reputable dealers will allow you to inspect a hive before you buy. Arrange to drop around on a warm sunny day between the hours of about 10 am to 3pm. Check out the hive entrance – is it dirty looking and smeared with sticky resin? Dirty is good in this case. It suggests the hive (or at least the part containing the entrance) has been established for some time. Look to see how much bee 'traffic' there is at the entrance, the more the better. Now check a bit closer to see what that traffic is doing. Are some bees returning with bundles of pollen in their pollen baskets? This is a good sign. Pollen is the protein food of the hive and is used for feeding the larvae. Is the occasional bee leaving the entrance with a little brown 'package'? This is even better. These little packages are the old pupae cases that are discarded as new bees hatch out of the brood. Occasionally a dead bee will also be hauled out and discarded. This is quite normal. They don't hold much of a funeral service in a stingless bee colony - losses are occurring all the time but a good queen will be producing enough eggs to maintain the hive's strength.

Depending on the circumstances the seller may offer to let you inspect the inside of the hive. If the hive is fitted with an observation panel you should insist on taking a look. Don't expect to find a hive full to the very brim. Even the most reputable seller is unlikely to offer for sale a hive ready for splitting, but the hive should contain a reasonable amount of structure and most importantly there should be a good number

of bees. Honey and pollen pots should be visible on the walls and the brood (or the involucrum housing the brood) should form a significant proportion of the nest. If, in addition to the bees, you spot a number of small insects that look like overweight humpbacked Vinegar flies darting quickly about inside the hive and/or a number of white 'maggots' on the pollen or honey pots don't buy it. These are Phorid fly and their larvae. They are a major pest for stingless bees and can wipe out a hive. Similarly if there is loose powdery pollen inside the hive, give it a miss. This is caused by pollen pots being destroyed and their contents dispersed by pollen mites or weevils.

If everything inside the hive looks satisfactory ask the seller if he or she offers any guarantee on the hive's survival. Most reputable sellers will give a conditional guarantee on a hive for up to 12 months; agreeing to replace the hive if it should die out in that time.

Okay, so you've liked everything you've seen during the inspection and after haggling with the seller over the price you figure that provided the kids can go without shoes for another year you can afford it. Despite your enthusiasm just remember that you won't be able to take it home there and then. Unless you want to lose a lot of foragers you will have to wait until after dark before the hive can be sealed up for transport. This may be inconvenient and you will have to come back tomorrow. The seller will close up the entrance at night for you and will usually put the hive in a cool shaded area or bring it inside to prevent the hive overheating.

In the meantime decide on a suitable place in your garden or on your verandah or patio for your hive. Choose your spot carefully because it can be a pain to try to relocate a hive within your yard. The bees will fix its location in their little brains with precision and moving it by just a couple of metres will disorient them.

On the way home with your hive next day don't stop to do the grocery shopping and leave it in your car in the hot sun. If you must break your journey put the hive in a cool spot. An air-conditioned room or office won't hurt the bees, but the heat inside a closed car, even on a sunny winter's day, can reach a point where it will soften the bees' cerumen building material and the whole contents of the hive may slump and kill the colony.

Don't open the entrance if you have installed the hive after dark. You will lose any foragers that may emerge. Instead wait until the next day to remove the entrance plug. Within a couple of days your bees should have adapted to their new home and be working as though they've always lived there.

John Klumpp

Beetles - A report on the presentation by Geoff Monteith to the Club on 28th July, 2005

SUMMARY OF A SLIDE SHOW ON BEETLES

Beetles belong to the Order Coleoptera and this group of insects is the most diverse group of animals living on earth. There are many hundreds of thousands of different species. So why are beetles so successful?

- They have the great advantages of flight, which are shared by other winged insects, but beetles have devised a way of protecting their delicate flying wings from damage. To achieve this, their front wings have become hard tough wing covers which conceal and protect their rear flying wings when they are not being used. This explains the scientific name of Coleoptera which literally means "sheathed wings". These wing covers ("elytra") means that beetles can undertake a much greater range of activities, such as burrowing in soil and wood, without damaging their vital flight organs.
- The external skeleton of beetles is greatly thickened and formed into strong plates which lock together into a strong box. This makes beetles very crush-proof and gives them great power to resist attack and also to burrow into hard substrates.
- Insects are very vulnerable to desiccation through water loss. But beetles are good at conserving water because they have a thick, impervious external skeleton, and also because many of their spiracles (air breathing holes) open under their wing covers preventing water loss during respiration.

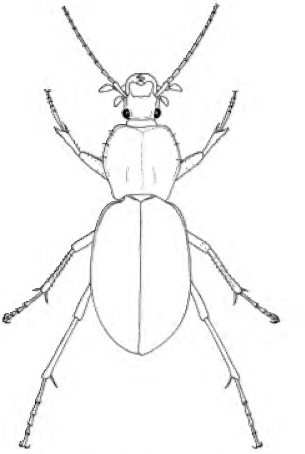
It is only possible to guess at the number of species of beetles. There are about 30,000 different species already named from Australia but there are probably more than twice this number yet to be described and named. During a 3-week Earthwatch project at Bellenden Ker in North Queensland in 1981, we found 1,614 different species of beetles in that one small region. The average size of these was only 2-3 mm long so a large proportion of the terrestrial diversity on earth resides in small beetles.

Classification of this vast number of species is a very complex business and the classification of beetles is continuously being revised as further study is done. The Order Coleoptera is first divided into four big units, called Sub-Orders, and most of the common beetles come under two of these, the more primitive Sub-Order Adephaga and the much larger and more advanced Sub-Order Polyphaga. In Australia there are about 10 families of Adephaga and about 115 families of Polyphaga. This brief treatment will deal with just a few, and will concentrate on the ones which feed on plants.

SUB-ORDER ADEPHAGA

The major group of Adephaga is the Family CARABIDAE, commonly known as ground beetles. They are mostly nocturnal predators, feeding on other insects. Common in the rainforests of SE Queensland are several metallic species of *Pamborus.* Their short curved jaws are specialised to grip slippery prey such as snails and earthworms, which they hunt on drizzly nights. Tiger beetles are fast-running, long-legged species with enormous fearsome jaws. The ones most often seen are the species of *Distipsidera* which run about in the daytime on smooth eucalypt trunks.

There are also some aquatic families in the Adephaga. Whirligig beetles belong to the Family GYRINIDAE and they swim in circles and zigzags on the surface of water hunting for insects that have fallen in. They have two eyes on each side of their head, one for looking below the water and the other to see above. Diving beetles are the Family DYTISCIDAE and they hunt their prey beneath the water surface. They carry a bubble of air beneath their wing covers to breathe, and often bob to the surface to replenish it.



Snail-eating Ground Beetle, Family Carabidae, *Pamborus alternans* – Common in rainforests of northern NSW and southern Qld. Runs about on ground at night in search of snails and earthworms - Drawing by Geoff Thompson, Queensland Museum

SUB-ORDER POLYPHAGA

Fireflies (Family LAMPYRIDAE) form part of this group. Males normally fly above the ground just after dusk, flashing a light from their abdomen. These are the ones usually noticed by people. The males have very large eyes. They use these to search for the females which are frequently wingless, found at ground level and blink only occasionally. Four to five species occur in the Brisbane region, one is known from mangroves, and displays in early spring. Larvae of most fireflies feed on small snails which they find among the leaf litter.

The Family LYCIDAE, or Net-winged beetles, is a group of orange and black beetles with many species in Australia. They have soft wings, and, when handled, produce a milky fluid that tastes nasty. This group provides the model species for a Muellerian mimicry ring which has beetles from more six other families plus a moth and other insects being part of this shared mimicry. The other insects are protected from being eaten by birds because of fear that they will also taste nasty. All the beetles and moths that are involved with this mimicry group are elongate, with orange-brown wings and dark heads and legs. They can be distinguished from the

nasty-tasting Lycidae on the basis of the other characteristics of the group the mimic belongs to.

The Family BUPRESTIDAE, known as Jewel Beetles, comprises some of the most beautiful, brightly coloured beetles with a metallic sheen. They are known to feed on the cambium (the layer beneath the bark that does the growing) of dying trees. Australia is famous for these beetles, particularly Western Australia. They are often found on nectar bearing flowers. The larvae are believed to mostly breed on roots or wood of eucalypts, but some feed in herbs, galls or mine leaves.

The Ladybird group, Family COCCINELLIDAE, also known as Lady Beetles, are mostly predatory as both larvae and adults. They frequently eat aphids and scale insects. One group of Ladybirds, the EPILACHNINAE, do eat plants especially Solanaceae (potatoes, black nightshade family) and Cucurbitaceae (cucumber family), and some are considered agricultural pests.

Several families (SCARABAEIDAE, GEOTRUPIDAE, PASSALIDAE, LUCANIDAE) are lumped together in an enormous and diverse group, known by the general name of "scarabs". A characteristic feature of this group is their unusual antennae, which have several flattened “leaves” attached to the end of a short stalk. These antenna can be folded in beside the head for protection or folded out to expose their chemical sense organs which are on the inside surfaces of the “leaves”. They find their food by smell, and can triangulate the direction of their food with their spread antennae. Their food sources are diverse including rotten wood, faeces, carrion, fungi, humus and plant roots.

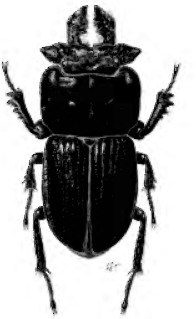
The Family SCARABAEIDAE is the largest of the scarab families and has several distinctive subfamilies. The Subfamily RUTELINAE include the well-known Christmas beetles (*Anoplognathus* species), and about six species occur around Brisbane, often coming to house lights during summer. Larvae feed in the ground on plant roots. Adults feed on eucalypt foliage and can defoliate trees when the beetles are numerous.

The Subfamily DYNASTINAE are the rhinoceros beetles, so-called because the males often have spectacular horns on their head and/or thorax which they use for fighting over females. The common, large two-horned species in Brisbane is *Xylotrupes ulysses* and its fat larvae are often found in compost heaps. The larvae take the shape of a semi-circle and are very typical of scarab beetle larvae. Adults form mating aggregations on Poinciana trees and one or two trees in a suburb may become the focus of attraction for large numbers of males. They chew the bark off the trees. The males use their horns to try to lever rival males off branches. The three-horned rhinocerus beetle (*Haploscapanes australicus)* is larger than those with two horns and is quite rare.

Flower chafers (Subfamily CETONIINAE) are somewhat flattened scarabs which have the ability to slip their flying wings out for action without lifting their hard wing covers (elytra). Their streamlined shape thus makes them very efficient, strong flyers. Other beetles have to lift their wing covers first before they can unfold their flying wings. The common fiddle beetle (*Eupoecila australasiae*) is so-named because the pattern of green lines on its back is violin-shaped. Its larvae feed in rotten wood and in compost heaps. They are much straighter than other scarab larvae and characteristically wriggle along on their backs.

Dung beetles (Subfamily SCARABAEINAE) form a large group with almost 400 Australian species. They are the ultimate at using their antennae to find a smelly food source that is widely scattered in the environment. They need to find the dung while it is still fresh and soft so they can still manipulate it into an underground nest burrow as food for their larvae. Eggs are laid into prepared balls of dung, the larvae hatch and hollow out the ball, pupate inside the shell and eventually hatch out as a new adult. *Onthophagus apterus* is a strange wingless species, known from one specimen in the Paris Museum that was collected in Queensland in 1870 and not seen again until small populations were found recently in inland Queensland. They live in patches of vine scrub where wallabies aggregate during the day to rest and defecate. The reliable and regular source of dung at such places, means the beetles no longer need to be able to fly, and can simply walk to find their dung. Some Australian dung beetles roll the dung into balls like the famous sacred scarabs of Egyptian myth. But ours are active during the night and thus rarely seen. Some overseas dung beetle species have been introduced to Australia to bury cattle dung because the native species evolved to deal with just the small dry pellets of marsupials.

Some geotrupids (Family GEOTRUPIDAE) have prominent horns which make them resemble a Triceratops dinosaur. They have a very rounded shape and are mostly found in deserts or sandy environments. They construct a chamber under the ground into which they drag mushrooms or humus. Eggs are laid in this food and their larvae develop in the burrows. Their burrows may be up to 6 feet deep and long sausages of sand appear as they dig and bulldoze the soil out through the entrance.



Stag Beetle, family Lucanidae. *Rhyssonotus laticeps.* A rare species which occurs from the Border Ranges north to Kroombit Tops. Breeds in dead eucalypt logs. – Drawing by Geoff Thompson, Queensland Museum

Stag beetles (Family LUCANIDAE) are highly recognizable scarabs because the males often have large jaws. Some are metallic in colour. One recently discovered species, *Sphaenognathus munchowae*, lives on the tableland above Carnarvon Gorge in Queensland. Its closest relatives are in Chile. The larva of this species live deeply embedded under very old eucalypt logs, and are covered with a layer of soil. These larvae live in dry areas and are particularly

good at water conservation. They have a distinctive enlarged anal area which removes as much water as possible from their faecal pellets. The golden stags (*Lamprima spp)* are metallic green, gold or purple in colour and often occur right in Brisbane suburbs, where they come to flowering pittosporum and similar plants.

Bess beetles (Family PASSALIDAE) are gregarious, sub-social scarabs which live in chambers inside rotten logs. Their food is the rotten wood and they raise broods of larvae which feed in the early stages on the part-digested wood in the droppings of their parents. The larvae have a special structure on their hind legs with which they make squeaks to communicate with the adults. All adult passalids have the same appearance....shiny black, parallel-sided beetles with deep parallel grooves in their wing covers. The largest local species is *Mastachilus questionis* which occurs at Lamington.

The remaining families to be considered here all belong to a major group known as the Phytophaga (literally "plant eaters") which primarily feed on plants. They all share a similar type of tarsal segmentation (their feet) where there are four large, wide segments plus a second last segment which is very small and almost invisible. Major families included here are the leaf beetles (Family CHRYSOMELIDAE), the weevils (Family CURCULIONIDAE) and the longicorns (Family CERAMBYCIDAE), all with many thousands of different species.

Longicorn beetles have very long antennae, often longer than the whole body of the animal. This is particularly so for the males. Their larvae feed on dead wood. The group includes hundreds of species which are often very host specific. The largest beetle in Australia, *Batocera wallacei,* is an enormous longicorn from Cape York which breeds in fig trees. A smaller species, *Batocera boisduvali,* occurs at Mt Glorious. The females of some longicorn beetles are known to ringbark branches of garden trees, then lay their eggs in bite marks in the section above the ringbarking. The larvae then grow in the stem above the ringbarking. This action cuts off the chemical defenses of the plant. A common large species in Brisbane is *Agrianome spinicollis,* a large khaki species which breeds in rot holes of poinciana trees. A good way to see longicorns is to examine the

Giant Fig Longicorn , Family Cerambycidae, *Batocera wallacei*. Australia's largest beetle. Occurs in New Guinea and the northern part of Cape York Peninsula. Breeds in fig trees– Photo by Owen Kelly

trunks of newly fallen trees where they will be found aggregating, mating and laying eggs into the dying timber.

Longicorn beetles are a diverse group which includes many mimics. Some mimic lycid beetles as mentioned earlier, others wasps, down to the types of movements that the wasps make, while still others mimic ants. There are also wingless desert longicorns. These have lost their hind wings and run around the ground, some mimicing wasps.

Weevils (Family CURCULIONIDAE) are beetles with "noses". The nose is more properly called a rostrum and consists of a cylindrical extension of the front of the head with the jaws placed at the end. The eyes are located above their rostrum while their antennae are attached to the side of the rostrum. On advanced species in this group, the antenna has an "elbow', that is it bends sharply at half length. The base of these antennae fit into grooves in the sides of the rostrum. Some weevils have the ability to fold their "noses" out of the way into a groove between their front legs when they aren't in use. On some weevils the rostrum can be longer than the rest of the beetle. Weevils use their rostrum as a boring instrument into hard plant tissues like wood and seeds and help the female lay her eggs inside. They hatch into legless grubs which bore along inside the chosen substrate. A few are pests of stored grains but most are harmless native species.

A well-known weevil is the Botany Bay Diamond Weevil (*Chrysolopus spectabilis).* It was collected on Cook's first voyage in 1770 and was named by Fabricius in 1774, making it the first beetle named from Australia. It ranges up to Cooktown NQ, and both adults and larvae feed on wattle trees. Australia's largest weevil, *Eurhamphus fasciculatus,* reaches 60mm in length and breeds only in Hoop Pines. Its shaggy surface camouflages it well on the rough bark on that tree.

Botany Bay Diamond Weevil, Family Curculionidae, *Chrysolopus spectabilis*. Occurs on wattles all along the east coast of Australia. – Photo by Owen Kelly

Most weevil larvae bore into timber, but one special Australian group, the genus *Gonipterus* and its relatives, have slug-like larvae which feed externally on the leaves of eucalypts, somewhat like caterpillars. They cover themselves with faeces as a disguise. Some of these species are being used for the control of Eucalypts that have become feral in other countries.

The Amycterinae are a group of large, wingless ground-weevils which have practically lost their noses, and have just a broad snout in front of the eyes. They are very diverse in the inland deserts and most seem to feed on grasses with their larvae living in the base of tussocks.

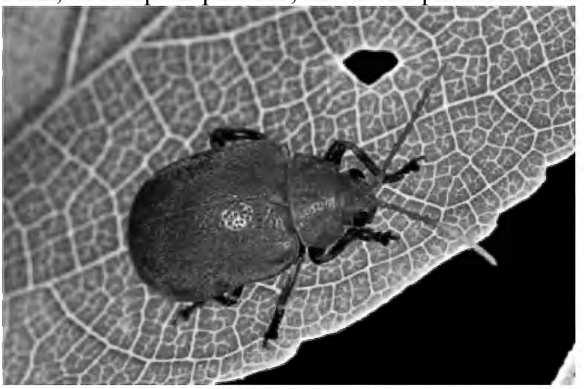
Some of the more primitive weevil families do not have elbowed antennae. The BELIDAE are one of these with many species feeding on wattles and conifers. Some have the orange and black colour which marks them as part of the lycid mimicry ring described earlier. Another extremely primitive group is the family NEMONYCHIDAE and almost all of these breed in the pollen sacs of the male cones of conifers, especially the ancient native Australian pines like kauris, hoops and bunyas.

Another family that lacks elbowed antennae is the BRENTIDAE. These are moderately to very elongate beetles often found on the outside of dead logs. Males of *Ithystenus hollandiae* have long thin legs that make a "cage" to imprison a female. This protects the female for a long time after they have mated and while she lays her eggs. Other males stick their noses in under a guarding male and try to flick it off so they can take possession. Another genus in this family, *Cordus*, live in ants' nests, particularly in inland Australia. Their relationship with the ants is unclear.

The Family CHRYSOMELIDAE is an enormous group with numerous colourful species which mostly feed as adults and larvae on the leaves of plants and rejoice in the common name of leaf beetles. The family is divided into about 6 sub-families, of which the CHRYSOMELINAE is by far the largest in Australia. There is a massive diversity of these on eucalypts and acacias and it appears that the beetles and plants have evolved together, with many of the hundreds of species of the plants having its own leaf beetle. The biggest group of these is *Paropsis* and its relatives, which all have a distinctive circular, highly-convex shape. Many of them have exquisite colours, but unfortunately they often fade rapidly in dead specimens. The females usually lay batches of eggs, often arranged around a twig. These hatch to batches of larvae which feed in groups on leaves. When disturbed they defend themselves as a group by simultaneously regurgitating toxic fluid, which sometimes even contains cyanide. Some species are serious pests of young eucalypt plantations. The adults usually hibernate during winter, often under loose bark of the host tree, then emerge in spring to lay eggs and start a new generation. Other familiar genera in the same subfamily include the green and red *Lamprolina* on pittosporum and bursaria, the gleaming dimpled green *Johannica* on wonga vines, the yellow and blue spotted *Phyllocharis* on clerodendrum and the yellow-spotted *Chalcolampra* on vitex.

The more soft-bodied Subfamily GALERUCINAE includes the fig beetle, *Poneridia australis,* which feeds on native sandpaper figs but is even happier to devour the leaves of commercial figs. It lays batches of pale yellow eggs under the

leaves and these hatch to families of hungry black larvae which line up along the edge of leaves as they feed. A native species that feeds naturally on the native elm, *Celtis paniculata*, is the dark reddish brown *Menippus cynicus.* It was formerly rare and only recorded once or twice south of Gympie. But in recent years it has arrived in Brisbane to find a wonderful, somewhat artificial, sub-tropical paradise, full of the pest tree Chinese Elm (*Celtis sinensis)*, and has started going to town on them. Let's hope it stays.



Chinese Elm Leaf Beetle, *Menippus cynicus*, Family Chrysomelidae, subfamily Galerucinae. Photo by Jeff Wright, Queensland Museum

Other GALERUCINAE feed on plants in the Vitaceae, or native grapes. The attractive red and black *Oides dorsosignata* is one of these, preferring *Cayratia* vines. Many of the larvae of GALERUCINAE don't feed freely on leaves but are found in the soil on roots of plants, while the adults feed on leaves. This applies to the pest red-shouldered leaf beetle, *Monolepta australis,* which sometimes occurs in massive emergences of adults which eat everything in their path. Flea beetles, called this because of their ability to jump using an enlarged hind leg segment (femur), belong to this group also. Many of them feed on Solanaceae, leaving small circular feeding marks on the leaves.

The Subfamily HISPINAE includes interesting beetles with their antennae inserted very close together and their heads bent backwards beneath. There are two basic sorts. Tortoise beetles are circular and flattened , with the outside edge of their body extended so it covers their head and legs from attack by predators. A common one is *Aspidomorpha deusta* which feeds on leaves of the beach convolvulus, *Ipomea pes-caprae.* Its larvae are typical of the group and have a forked appendage on its tail which collects its shed skins and faecal pellets. It flexes these over its back as camouflage. Another very curious tortoise beetle is *Notosacantha dorsalis*. Its adults feed on leaves of *Acacia crassa* in the mid west of Queensland and resemble blotches on the leaf surface. Its larvae are leaf-miners which live inside the leaf. The other type of Hispinae are the "true hispines" which are usually flattened, elongate beetles which live in the axils of leaves of monocot plants. For example, the prickly little black *Hispellinus* lives on grasses while the smooth pale *Eurispa* lives on sedges like gahnia. Most unusual is *Aproida balyi* which is common around Brisbane on the twining wombat berry vine, *Eustrephus latifolius.* The adults resemble small green

grasshoppers while the larvae look like caterpillars with a long black tail. When they pupate they hang down on the withered skin of the larva and mimic the flower buds of the plant. Two species of these true hispines have been brought to Australia to attack lantana and are well established around Brisbane. Both have larvae which burrow inside the lantana leaves.

The Subfamily CRYPTOCEPHALINAE includes small cylindrical beetles with both ends of the body with a "cut off" appearance. Their elytra are also slightly shorter than the length of the abdomen. The adults are mostly found on eucalyptus and acacia leaves. Their larvae live in small portable cases made from their dried faeces. They live on the ground and feed on dead leaves in the leaf litter. They also pupate inside this case.

The Subfamily CRIOCERINAE has only a few species and the most familiar is the shiny yellow-patterned orchid beetle, *Stethopachys formosa,* which feeds on the flowers and leaves of orchids. Related species of *Lilioceris* feed on the soft young leaves of barbed-wire vines, *Smilax australis*. Larvae of this subfamily feed in a group and cover themselves with their faeces for camouflage and protection. When they pupate they produce a shelter for the whole group made of a secretion which dries out to closely resemble polystyrene.

Geoff Monteith

JALMENUS UPDATE

Some time back when writing about my observations on *Jalmenus evagoras* I mentioned the Green Treehoppers (Issue 32 March 2004) which were often associated with them. I also mentioned that I suspected that these bugs (most likely *Sextius virescens)* might be the missing link which keeps the ants in the saplings while the eggs or hatchling larvae are too small to interest the ants themselves. In this way the eggs and hatchlings get protection from predators until they are old enough to be of interest to the ants. Without the ants the level of predation is extremely high to the extent that I've not seen any *Jalmenus* larvae survive to pupation in the field if the ants are not in attendance. Even several ant free pupae transferred

1st instar larvae clustering in close association with treehopper. Notice the absence of eggs in the leaf axil. Photo Helen Smith 2005

to, and scattered about amongst, the foliage of an otherwise suitable sapling (also ant free) were all missing – presumably eaten - within 48 hours.

In the spring of 2005 a colony of *J. evagoras* at Hornsby, NSW was being kept under observation for me by Helen Smith of the Australian Museum Arachnology Department as she lives a few doors away from it. I asked Helen if she could let me know as soon as she noticed any larvae in the saplings. On the 24th/October she reported "There was a small herd of 5 or 6 little orange larvae all being fussed over by the ants, + a big green leafhopper in the same group." Helen was able to take some photos which show this association of the first instar larvae with the tree/leaf hopper and the ants. She kindly gave her permission for the photos to be used in this article.

The ants were showing more interest in the hoppers and the few second instar larvae. The second instar larvae seem to produce something of interest to the ants and in those cases both larvae and hoppers seem to get an equal share of attention but in neither case do they warrant a steady stream of ants attending them. Even second instar larvae will be ignored if isolated on a limb but a group of larvae, or both larvae and bugs will get much more attention, and therefore protection, from predators. As the larvae grow larger they become more popular with the attendant ants which then seem to mainly ignore the hoppers in favor of the larger larvae. The larger larvae also get a constant stream of ants shuttling to and from them and the nest and with several resting on their backs at all times and others which scout ahead of the larvae advancing down a stem to detect and attack any predators encountered. Neither treehoppers nor smaller instar larvae get this attention level. When this situation occurs the treehoppers and first and second instar larvae seem to seek out these larger larvae to cluster with and gain protection from association that way.

Older larvae get more attention from the ants and therefore more protection. Notice the small cluster of freshly laid eggs close by in the leaf axil. Perhaps the butterflies also seek out these areas of ant attendance to lay their eggs. Egg clusters have also been found on the silken sheet the larvae pupate on. Photo Helen Smith, 2005)

The photo on the left will (hopefully) show the early instars association with the treehoppers. Clearly the already complex mutualistic relationship between the ants and the *J. evagoras* larvae may be more complex than was originally thought. On other plants scale insect and mealy bugs have been

noticed with attendant ants and there could be other species involved in different parts of the species range. I'd be interested to hear of anyone else's observations of suites of 'honeydew' producing insects associating together in a similar manner.

Martyn Robinson

IN THE GARDEN

A few years ago the Club had an outing to the Sorensen's at Munruben. One of the highlights for me was the little Plumbago (or Zebra) Blues, *Leptotes plinius pseudocassius*, flittering around the exotic *Plumbago auriculata.* I was bold enough to ask our host, Denise, for some cuttings. I am glad to say I had success with the cuttings and now have an established *P. auriculata* in the garden. I have under planted it with the native *P. zeylanica* which just runs along the ground and does not attain much in the way of height.

Plumbago or Zebra Blue (*Leptotes plinius pseudocassius*) taken by a spider – Photo by Peter Hendry

I am pleased to report that the Zebra Blues have now made my garden home, and are one butterfly you can count on seeing any day, especially over summer. Some days there are up to 20 and the number seems to be growing daily. They are fascinating to watch and photograph. One photo I obtained is of a female being taken by a spider (opposite). While taking this photo three males tried to mate with the poor old girl.

The Plumbago Blue was featured in our June 2004 newsletter, and I would recommend that anyone plant a *Plumbago auriculata* or *P. zeylanica*

Peter Hendry

ITEMS OF INTEREST

Processionary caterpillars *Ochrogaster lunifer*

Extra notes on Processionary or Tent caterpillars to the information given in "**Hairy abortions**" (BOIC Newsletter #39: 18 – 20). *Ochrogaster lunifer* (previously known as *Teara contraria*) belongs to the moth family Thaumetopoeidae, and has moths with

hairy bodies and wingspans up to 40 to 60 mm. Tents or larval communal shelters are 250 mm or more across.

The Processionary caterpillar is believed to be a complex of species. Around the Brisbane region, it prefers to eat acacia foliage and nest in tents at the base of the trunk. However in the Toowoomba region, the Processionary caterpillar eats eucalyptus leaves and nests in tents strung amongst the foliage. The caterpillar may pupate in these tents or in the soil. When caterpillars are seen wandering around a lawn or away from the tree, it is either because the tent has been breached/disturbed, or they are searching for fresh foliage, or they are searching for a pupation site. The 'species' is known across Australia. In early writings, graziers on their horses, used pole cutters to cut down these aerial tents. However tents falling on the horse and causing the horse to go crazy, are also noted (W.W. Froggatt, 1923. Forest insects of Australia).

Ochrogaster lunifer

My experience with these caterpillars goes back to when I was a boy who couldn't resist collecting a fascinating column of marching caterpillars. I broke out in an extremely itchy rash that lasted three days. I kept some larvae in a tin which was lost in amongst my belongings, until three years later, when I opened this tin to find these dried caterpillars inside. Again I had to suffer three days of unbearable itchy rash. I always believed this species was the worst in the Brisbane region. Australia does have some nasty caterpillars with setae (sharp rigid hairs) that can penetrate skin and eyes, but of the species that have irritating hairs, the Processionary caterpillar is most often seen around Brisbane. Southeast Queensland has larvae capable of causing skin blistering, stinging or rashing from the families Thaumetopoeidae, Eupterotidae, Anthelidae, Lymantriidae, Arctiidae, Limacodidae and Nolinae (Noctuidae). The White cedar moth larvae (*Leptocneria* spp.) can also be irritating, but can be eliminated by not growing White cedars (*Melia azedarach*) or as Don Herbison-Evans and Debbie Racklyeft (authors of 'Hairy Abortions') indicated, by the use of sacks tied around the tree trunk. Hiding larvae can then be removed.

When tents are disturbed, wandering larvae may die away from the tree, thus causing problems for grazing animals and gardeners. Discarded larval skins after pupation can also cause problems. Lawn mowers blow up hairs which land on sweaty skin and cause irritations. Each hair fragments into smaller pieces, and is spread by scratching

the site and then touching other sites. The victim's body will soon be covered with welts.

I consider nests at the base of trees could be burnt, however this could be dangerous as a fire could burn into the trunk of the tree. Tree nests are very dangerous to cut down, because a breeze could blow hairs into the pruner operator. Also falling nests will break open and spill larvae everywhere. Another control strategy to target is egg tracking. Around the Brisbane area, moths lay egg masses covered with whitish fluff, on the lower trunks of Acacia trees, from November to January. A note should be recorded in your diary to search for eggs during this period, and crush these egg masses. Chemical controls would seem extreme and impractical, because a systemic insecticide would need to be used on breeding trees every year during January to April or May.

I have bred fly and wasp parasites from Processionary caterpillar larvae. A small pyralid moth larva is also implicated as attacking eggs. Birds, for example Cuckoos, have been recorded as eating larvae

There are some excellent articles on the Processionary caterpillar, and in particular, Graham Floater at the University of Queensland, has published some informative findings. I have some **references** below.

Floater, G.J. 1996. Life history comparisons of ground- and canopy-nesting populations of *Ochrogaster lunifer* Herrich-Schaeffer (Lepidoptera: Thaumetopoeidae): evidence for Two species? Aust. Jnl. of Entomology, 35: 223-230.

Floater, G.J. 1996. Estimating movement of the Processionary caterpillar *Ochrogaster lunifer* Herrich-Schaeffer (Lepidoptera: Thaumetopoeidae) between discrete resource patches. Aust. Jnl. of Entomology, 35: 279-283.

Van Schagen, J.J., Majer, J.D. & Hobbs, R.J. 1992. Biology of *Ochrogaster lunifer* Herrich-Schaeffer (Lepidoptera: Thaumetopoeidae), a defoliator of *Acacia acuminata* Bentham, in the Western Australian wheatbelt. Australian entomology Magazine 19 (1): 19 - 24

Murdoch De Baar.

Ed.: visit http://www.usyd.edu.au/macleay/larvae/noto/lunifere.jpg to see photos of *Ochrogaster lunifer*

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Cicadas and weather patterns

Cyclochila australasiae (Donovan 1805), Greengrocer (green form), Yellow Monday (yellow form), Masked Devil – form *spreta* from mountain areas

The Greengrocer, Yellow Monday, Chocolate Soldier, Blue Nurse and Masked Devil are all the same insect with different mixtures of their blue/yellow pigments. The

Masked Devil is predominantly a mountain cicada seen very commonly in huge numbers around Blackheath and similar climes. It is sometimes found in Sydney and surrounds but not as commonly as the mountains.

The mountain variety seems to emerge approximately one month earlier than their Sydney cousins. This seems to happen with other insects as well. Logic would seem to dictate that they should emerge later not earlier.

My observations are based around the fact that I have seen the changing pattern of emergence over 40 or more years in the one spot – Roseville, a northern Sydney suburb.

I have contended for many years that *Cyclochila australasiae* emerges on 1 November and finish on Boxing Day. If you hear them much earlier than 1 November it signifies that we will have a long hot summer (that is lots of sunshine, humid, 25 – 40 degrees with the summer extending into May) and if you hear them much after the first of November it means we are in for a lousy summer (that is a rainy, windy, cold summer, 19-25 degrees, that doesn't last long, and starts getting cold in March)

This season we heard a lone cicada on the hill around the 19 October. Almost two weeks prior to when we expect to hear them signifying that we were in for a long hot summer. This summer Sydney has experienced its hottest day in almost a century (45°) and has experienced its hottest year since records have been kept.

Another interesting observation is that the Greengrocer has a dislike for some trees not only to breed in but also to rest in. Max Moulds gives a detailed list in his publication "Australian Cicadas" of trees that are considered as native food plants. All but one I agree with. Around our place they breed and are found in Liquidamber *(Liquidambar styraciflua*), English Oak (*Quercus robur*), Illawarra Flame (*Brachychiton acerifolius*), Sydney Blue gum (*Eucalyptus saligna*) but they seem to have a distinct dislike for Turpentine (*Syncarpia glomulifera*). We have two very large double-trunked turpentines but our observations are that they will rest in the tree when chased there by birds or when there is no room in the nearby Liquidamber, Oaks or Flame Trees.

We have also noticed that the Greengrocer likes it to be 26° before it will start singing during day light hours. On hot days it will sing almost all day long. At night it will sing once the temperature reaches 24°.

If the temperature is in the lower range it will sing for about ½ - ¾ hour around 7:45 pm (daylight saving time) but if the temperature stays above 26° the cicada may have 2, 3 or 4 singing sessions that last beyond midnight.

I would be interested to hear from anybody who either agrees or disagrees with these observations.

Graham Owen

President, Society for Insect Studies (Sydney)

YOU ASKED

Recently I wrote to the Minister for the Environment, Hon. Desley Boyle MP, about several matters, one of which was BugCatch. The BugCatch program allows supervised collection of invertebrates by knowledgeable people in places like National Parks. This valuable information, which would otherwise be unavailable, can then be used in management of these areas. Unfortunately, changes were made to this program without consultation with BOIC, nor was it advised of the changes. Understandably this has left a few people wondering what had happened. My query and the reply follows.

"When the Butterfly and Other Invertebrates Club was working with the Department on a recovery project for the Laced Fritillary it became apparent that aspects of the permit system were proving counter-productive. The Department responded positively to remedy some of the shortcomings. It initiated a generic permit accessible by members of the Queensland Entomological Society. It also initiated the Bug Catch program and club members were invited to attend the first event. However, there were no invitations to subsequent events. Club members wishing to attend have had to join the Entomological Society. While these people represent only a small fraction of the 200 members of the club, on some occasions they were a large proportion of attendees at Bug Catch events. Members who rang the Department to enquire were advised that a decision had been made not to invite the club. Could you advise the reason for this decision so that I can pass it on to interested members."

Frank Jordan

The answer, in part, read:

"As per your enquiry regarding the BugCatch events, the decision to involve members of the Entomological Society of Queensland is seen as a way to keep this program manageable and succinct. This program is run by the Environmental Protection Agency (EPA) to involve professional and non-professional entomologists that have expertise in their chosen field, so that the greatest amount of information may be gained in a small period of time.

The EPA certainly does not wish to exclude anyone interested in being involved in BugCatch, but as a way of managing the program, decided that it would use the Entomological Society of Queensland as the peak co-ordinating body. Invertebrate club members wishing to be involved in BugCatch events are required to be members of the Entomological Society of Queensland."

Ross MacLeod, Senior Policy Advisor (Environment)

THE BOIC 'S COLLECTION POLICY AND PRACTICE

After much discussion, and building upon a previous agreement developed in 2001, the last planning meeting agreed to the following statement regarding how members and others can conduct their collecting practice while on Club excursions and activities:

The Butterfly & Other Invertebrates Club acknowledges the importance of collecting for scientific purposes. Any collecting at general Club excursions and activities needs to be discretely done, out of the public eye, and carefully considered, with permits where required. Information about this policy is to be made available at the beginning of each excursion.

Those who do collect specimens are encouraged to provide lifecycle, identification and other information about the specimens collected in a forthcoming newsletter.

Helen Schwencke

WORLD WIDE WEBSITES TO WATCH

http://www.abc.net.au/science/scribblygum/december2003/default.htm This page on the site has some great beetle photos.

BACK ISSUES

Back Issues of the Club Newsletter are available at a cost of $2 each plus postage (1-2 copies $1.10 - 3-6 copies $1.50).

OTHER ORGANISATIONS' ACTIVITIES

Butterflies and other "Bugs" in Brisbane is a program of presentations and workshops on various groups of invertebrates, to be held in 2006 throughout Brisbane, particularly in the Marchant, The Gap, Wishart & Jamboree Brisbane City Council wards, centred on Bushcare and Catchment revegetation and regeneration projects. Visit: www.ourbrisbane.com.au for details from 1st April, 2006. This project is supported by BOIC.

IndigiScapes Expo – 3rd and 4th June 10am-4pm. Discover the wonders of IndigiScapes on this fun filled family weekend. Many wildlife displays, music festival and workshops.

Richmond Birdwing Recovery Network – At the IndigiScapes Expo at 10am on 3rd. June Dr. Don Sands will speak on a relatively new project involving mainly catchment groups and individuals from Mary River to the Tweed in a co-ordinated project to plant Richmond Birdwing Vines.

BUTTERFLY AND OTHER INVERTEBRATES CLUB PROGRAMME

Gold Coast Excursion

When:	Sun 19th March, 2006 from 10am – mid afternoon
What:	Meeting at Burleigh Heads National Park (UBD Gold Coast Map 60 ref G9) From here we will be visiting a number of spots inland along the Gold Coast to be led by Doug White of ddwfauna (for more information visit: www.ddwfauna.com.au)
Bring:	Morning tea, lunch, afternoon tea, drinks, snacks (to share if you like), hat, sunscreen, insect repellent
RSVP essential:	Contact Helen, 3844 6677 or email: hschwenc@dovenetq.net.au, at least 24 hours beforehand

Annual General Meeting - rescheduled

What:	Our Annual General Meeting, election of Office Bearers and a Special Resolution to adopt a new constitution. This will be followed by a walk through the Bushland Habitat attached to the Centre and afternoon tea. Facilities are available for those who would like to stay for a BYO BBQ.
When:	Saturday, 8th April, 1.30pm for the AGM, with the Walk to start 2.15pm – 4pm
Where:	Downfall Creek Bushland Centre, Rode Rd., Chermside West (2003 Brisbane UBD, Map 119, Ref F16
Contact:	Daphne 07 3396 6334 or email bowden@itconnect.net.au to RSVP or for more details

Planning and Management Meeting

What:	Our planning meetings are informative and interesting. As well as planning our activities we share lots of information. All members are welcome as this activity is also a general meeting of members.
When:	Wednesday, 3rd May, 6.30pm
Where:	to be advised on RSVP
Contact:	Daphne 07 3396 6334 or email bowden@itconnect.net.au to RSVP or for more details

Queensland Museum visit

What:	A visit to the insect collection held at the Queensland Museum, to be led by Chris Burwell
When:	Wednesday, 17th May, meeting at 9.45am for a 10am prompt start
Where:	Queensland Museum, Southbank, meet outside the front entrance to the Museum
Contact:	Places are limited and bookings are essential. Daphne 07 3396 6334 or email bowden@itconnect.net.au to RSVP or for more details

IndigiScapes Expo

When:	Saturday 3rd & Sunday 4th June, 10 am to 4pm
Where:	IndigiScapes, Runnymede Rd., Capalaba
What:	Club members will be holding an information stand. Come by and meet us. Enjoy a walk through the native plant gardens. You may also like to look out for the Worm Farming and household waste recycling demonstration

Bring: yourself and your friends
Contact: Daphne 07 3396 6334 or email bowden@itconnect.net.au

DISCLAIMER

The Newsletter seeks to be as scientifically accurate as possible but the views, opinions and observations expressed are those of the authors. The Newsletter is a platform for people to express their views and observations. These are not necessarily those of the BOIC. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

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ARE YOU A MEMBER

Please check your mailing label for the date your membership is due for renewal. If your membership is due, please renew as soon as possible.
Membership fees are $15.00 for individuals and $20.00 for families, schools and organizations.

Would you please advise bowden@itconnect.net.au if you get or change an email address.

Next meeting – Gold Coast Excursion Sunday 19th March 2006